Palmdale (Site 2)
Sensor Test Facility
Capabilities & Scheduling

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OVERVIEW

- **Test Resources**
  - ***System Integration Lab***
  - ***Site 2 Ground Station***
- **DGS vs Site 2**
- **Ground Station Scheduling**
- **Ground Station POCs**

TEST RESOURCES - SIL

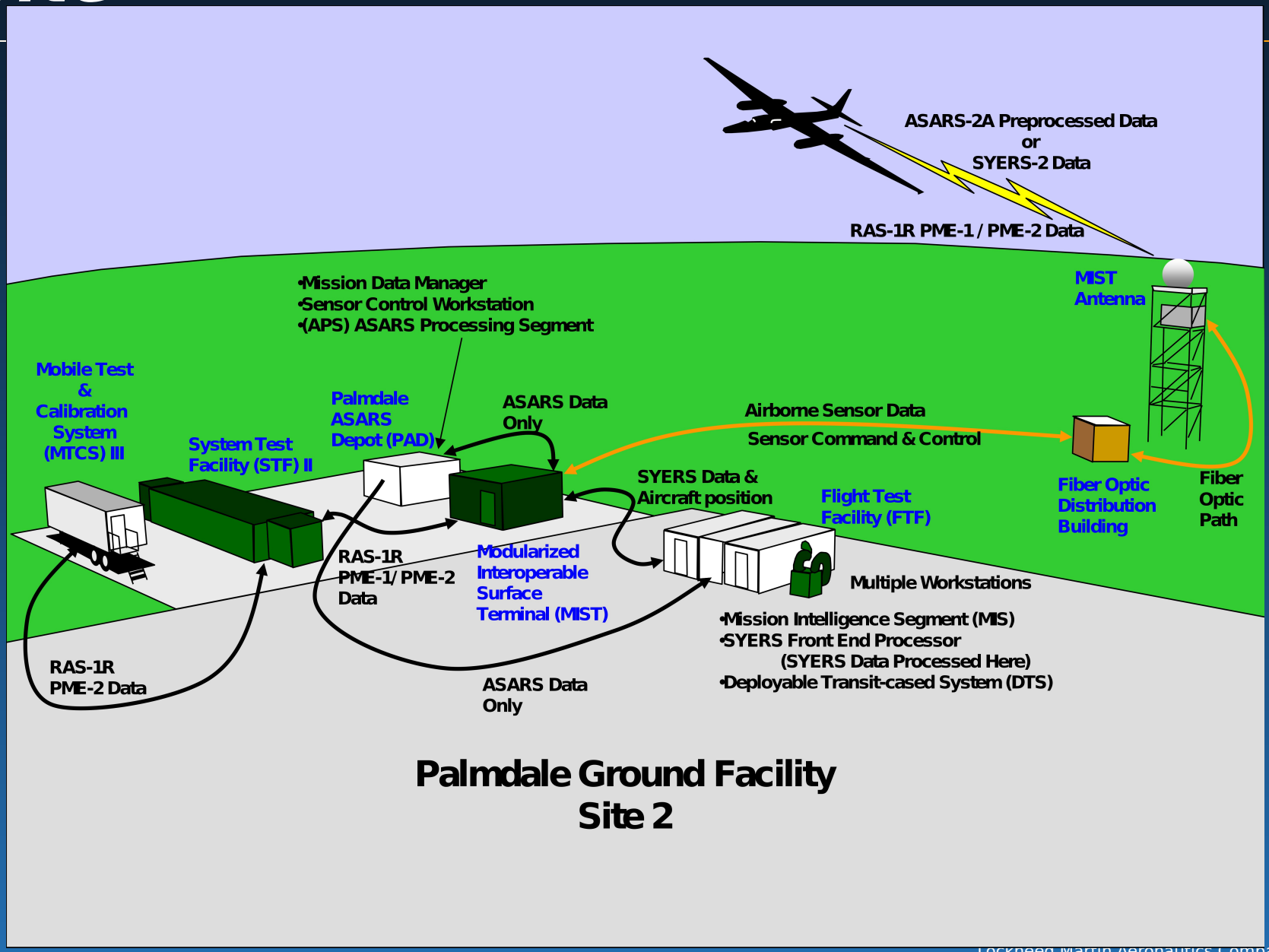
SYSTEM INTEGRATION LABORATORY (SIL)

- The SIL is an integration and regression testing facility
- The SIL is an electrical mock up of the U-2
- SIL mission is test, evaluation, problem identification and resolution, leading to reduced U-2 ground / flight tests
- Allows for the integration of Prime Mission Equipment (PME) and Group B cables with Group A wiring, Core Avionics, Data Links on U-2
- SIL is interconnected with the Site 2 ground station for PME support during test

TEST RESOURCES - Site 2 Ground Site

- **Links**
  - ***2 DLIP MISTs – Data Link Improvement Program (ATM upgrade) Modular Interoperable Surface Terminal***
- **IMINT**
  - ***Palmdale ASARS Depot (PAD)***
    - SCWS – Sensor control work station
    - APS – ASARS Processing Segment
    - Mission Data Manager
  - ***Flight Test Facility (FTF)***
    - SFEP – SYERS Front End Processor
    - MIS – Mission Intelligence Segment
    - DTS – Deployable Transit System
    - CIP – Common Imagery Processor
- **RFINT**
  - ***STF-II – System Test Facility (DGIF- Deployable Ground Intercept Facility)***
  - ***MTCS-III – Mobile Test and Calibration System (GCP – Ground Control Processor)***
- **ARMY TES Facility**

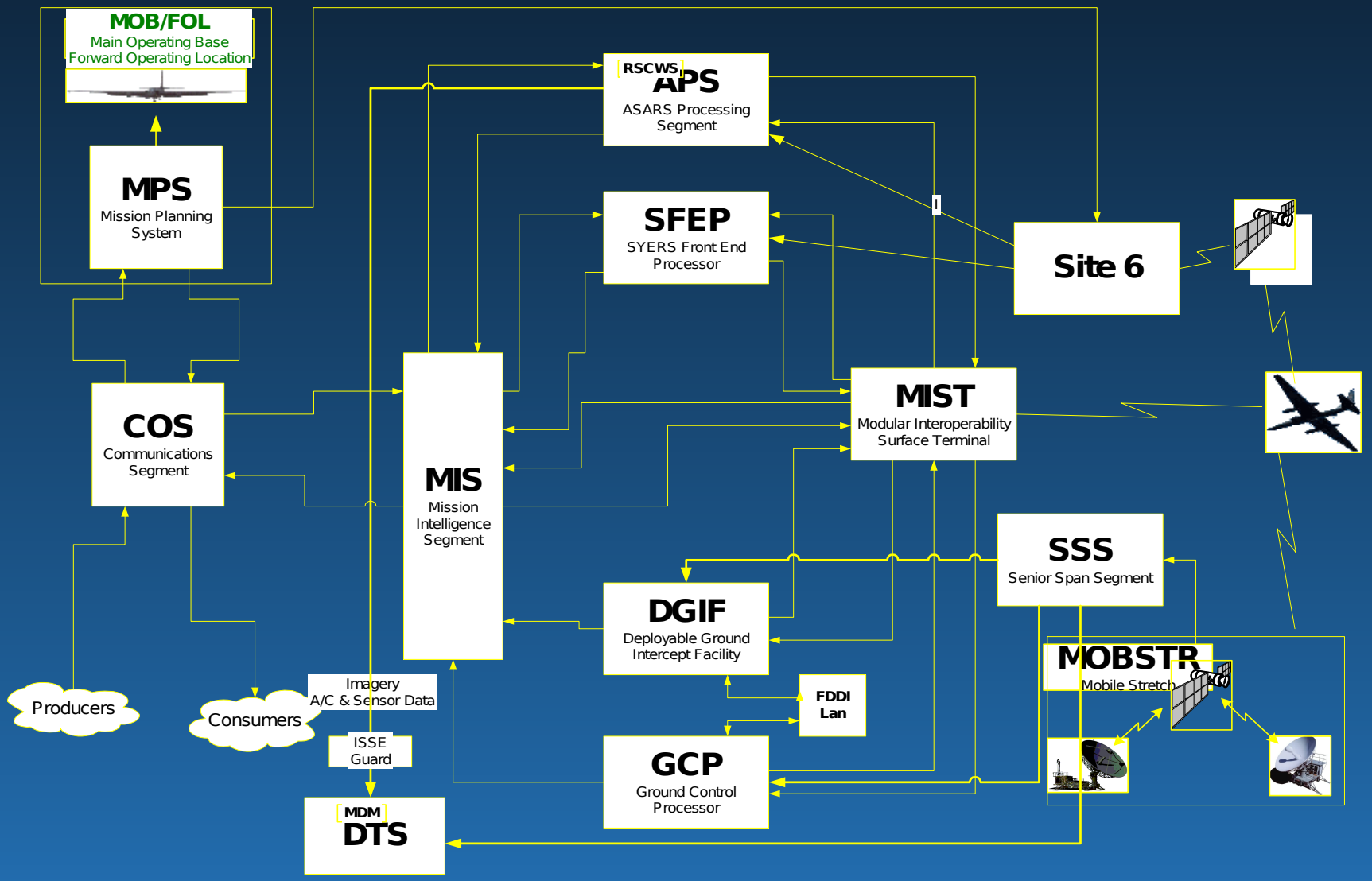
TEST RESOURCES - Site 2 Ground Site



TEST RESOURCES - Site 2 Ground Site

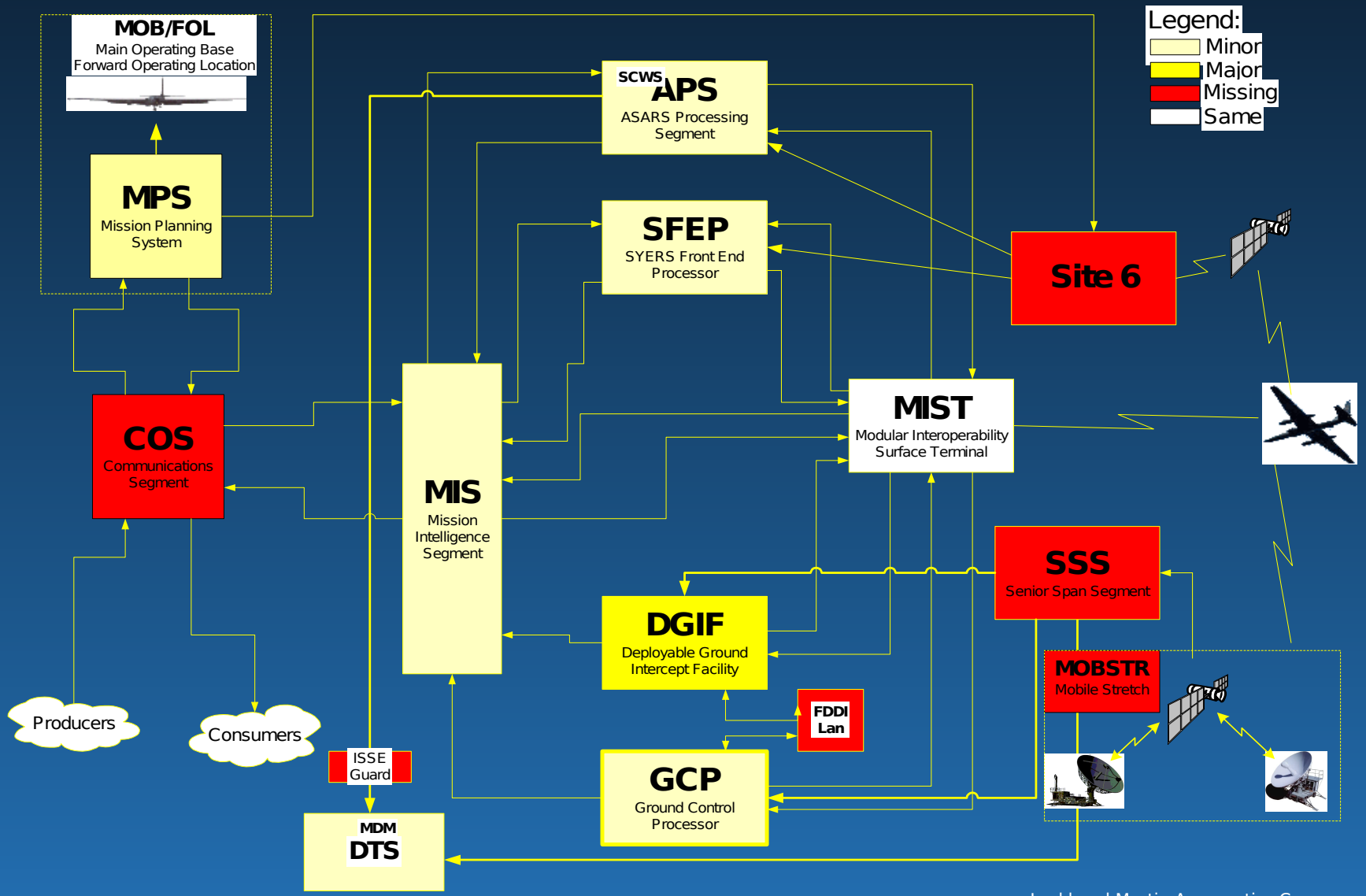
DGS vs Site 2

Deployable Ground Station (DGS-2) Segment Layout



DGS vs Site 2

Palmdale Ground Station (Site-2) Segment Layout



Ground Station Scheduling

- **LM Aero requires funding to provide support for non U-2 programs**
  - ***Coordinate through WR-ALC/LXA-1 Scott Mangrum 478-926-8334 or scott.mangrum@robins.af.mil***
  - ***Sample of LM Aero costs***
    - 6 Global Hawk Flights from 1 Jun 03 to 31 July 03, $20k to $25k
  - ***Need Government to ensure other associate contracts can support manning of the ground station facilities***

- **To Schedule use of the ground site**
  - ***Once test requirement identified contact Jim McCain in LM Aero System Test 661-572-3009. Jim will add flights to long range schedule***
  - ***4 weeks out plan to attend weekly scheduling meeting (Wednesdays 1:00pm) or contact Jim McCain to provide inputs. Jim will get testing added to short range schedules***
  - ***To get on distribution for short range schedules contact Scott Mangrum at WR-ALC. Scott will direct LM Aero to add to distribution list***

Site 2 Ground Station POCs

- MIST – L3 COM (Data links) – Ron Morgan 661-273-5338
- PAD – Raytheon (ASARS) – Jack Jones -2045
- FTF – LM M&DS (MIS) – Larry Johnson -1011
  - Raytheon (DTS) – Terry Struven 310-334-2962
  - Goodrich (SYERS) – Sam Fu -1872
  - Northrop Grumman (CIP) – Michael Bongiovanni 410-765-6446
- STF-II – Raytheon Falls Church (DGIF) – Russ Wolfe -3396
- MTCS-III – LM M&DS Denver (GCP) – John Murray -3632
- Coyote Van - Army TES – Bill White 703-428-6969

- LM Aero System Test (scheduling)– Jim McCain -3009
- LM Aero System Engineering – Kent Trenkle -7331

All Numbers 661-572-xxxx unless noted

Backup Slides

DGS-Palmdale (Site 2) Ground Stations Differences

APS Functions (Minor)

DGS-2	Palmdale	Resulted in
•Convert Complex imagery to NITF format	•Same as DGS-2	
•Storage of imagery data	•Not as much disk storage available for imagery	
•Compression of imagery data for and transfer of imagery over the MOBSTR data link	•No MOBSTR capability at Palmdale	•No ability to test MOBSTR throughput or functionality
•Imagery Screening	•Same as DGS-2	
•Collection plan updates from other segments	•MIS is the only segment at Palmdale capable of sending collection plan updates to APS	•No ability to test inter-segment Collection update capability at Palmdale
•Provide image data in a variety of displays including overlays	•Same as DGS-2	
•Provide monitoring, control and dynamic retasking of the sensor	•Same as DGS-2	

DGS-Palmdale (Site 2) Ground Stations Differences

SYERS FEP (Minor)

DGS-2	Palmdale	Resulted in
•SYERS sensor Control •Mission Monitoring •Imagery formation and storage •Imagery Screening and exploitation •20 Exploitation workstation <u>MOBSTR SFEP Configuration</u> •SYERS sensor Control •Mission Monitoring •Imagery formation and storage •Imagery Screening and exploitation •20 Exploitation workstation	•Same as DGS-2 using the MIST to SFEP connectivity •Same as DGS-2 •Same as DGS-2 •Same as DGS-2 •4 Exploitation workstations •No ability to test any of the SYERS functionality in the MOBSTR configuration due to lack of MOBSTR asset	•No ability to load test networks at Palmdale

DGS-Palmdale (Site 2) Ground Stations Differences

MIS Functions (Minor)

DGS-2	Palmdale	Resulted in
•Mission Control •Mission Planning •Message Handling (Incoming and Outgoing)	•Same as DGS-2 •Same as DGS-2 •Palmdale unable to process Incoming and Outgoing message traffic due to the lack of external comms	•No ability to test dissemination at Palmdale
•Imagery Exploitation •Exploitation Derived IMINT Report Products for Dissemination •Dissemination of DGIF and GCP exploitation and product reports	•Same as DGS-2 •Products can be produced at Palmdale but cannot disseminated •DGIF and GCP exploitation and product reports cannot be disseminated due to lack of network connectivity to MIS	•No ability to test inter-segment communications at Palmdale
•Center for DCGS communications between segments and systems of varying security levels •20 Exploitation workstation	•Lack of network connectivity between segments at Palmdale •4 Exploitation	•No ability to load test networks at Palmdale

DGS-Palmdale (Site 2) Ground Stations Differences

DTS Functions (Minor)

DGS-2	Palmdale	Resulted in
•Imagery Exploitation from U-2 •Imagery Exploitation from National Sources •ISSE guard used for security level segregation •6 Exploitation workstations	•DTS Software was set up at Palmdale •No Imagery available from National Sources •No ISSE guard •4 Exploitation workstations	•No ability to test and identify performance problems with the delivery of Imagery products to the DTS workstations at Palmdale •No ability to load test networks at Palmdale •No access to reference Imagery from external sources (National or Image Produce Library (IPL))

DGS-Palmdale (Site 2) Ground Stations Differences

DGIF Functions (Major)

DGS-2	Palmdale	Resulted in
•RAS-1R Sensor Control	•Same as DGS-2	
•Mission Monitoring		
•Tailor frequency to Area of Interest	•Same as DGS-2	
•Create commands to control operation of the RAS 1R sensors	Same as DGS-2	
•Accept downlinked data from RAS 1R sensors	•Same as DGS-2	
•Process data from the sensors to allow identification of collected emitters	•Same as DGS-2	
•Provide TACREP report data to the MIS and GCP	•Does not provide TACELINT report data to the MIS and DGIF	•No ability to test inter-segment communications at Palmdale
•Perform System and Sensor status monitoring	•Same as DGS-2	
•Allow tailored reporting to consumers	•Does not exist at Palmdale	•No ability to test dissemination at Palmdale
•Identify and report potential threats to Mission Aircraft to cognizant personnel	•Does not have access to TIBS/TADIL information at Palmdale	
•Secure voice comms from GMS in GCP to MOC(MIS) or the pilot	•Does not provide secure voice comms from GMS in GCP to MOC(MIS) or the pilot	•No ability to load test networks at Palmdale
	•4 Exploitation	

DGS-Palmdale (Site 2) Ground Stations Differences

GCP Functions (Minor)

DGS-2	Palmdale	Resulted in
•Tailor frequency to Area of Interest	•Same as DGS-2	
•Create commands to control operation of the RAS 1R (ELINT) sensors	•Same as DGS-2	
•Accept downlinked data from RAS 1R sensors	•Same as DGS-2	
•Process data from the sensors to allow identification of collected emitters	•Same as DGS-2	
•Provide TACELINT report data to the MIS and DGIF	•Does not provide TACELINT report data to the MIS and DGIF	•No ability to test inter-segment communications at Palmdale
•Perform System and Sensor status monitoring	•Same as DGS-2	
•Allow tailored reporting to consumers	•Same as DGS-2	
•Identify and report potential threats to Mission Aircraft to cognizant personnel	•Same as DGS-2	
•Secure voice comms from GMS in GCP to MOC(MIS) or the pilot	•Does not provide secure voice comms from GMS in GCP to MOC(MIS) or the pilot	
•20 ELINT workstations	•5 ELINT workstations	•No ability to load test networks at Palmdale